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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/567,221

02/03/2006

Babak Movassaghi

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11/27/2007

PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

RUSH, ERIC

ART UNIT

PAPER NUMBER

2624

MAIL DATE

DELIVERY MODE

11/27/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/567,221

Applicant(s)

MOVASSAGHI ET AL.

Examiner

Eric Rush

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 26 July 2007; 3 February 2006.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to because of the following informalities. Claim 1 recites the limitation "the space point" in line 10. There is insufficient antecedent basis for this limitation in the claim. Examiner will treat the space point as referencing the at least one image point of the structure.

Appropriate correction is required.

2. Claim 10 is objected to because of the following informalities: Claim 10 recites the limitation "the space point" in line 8. There is insufficient antecedent basis for this limitation in the claim. Examiner will treat the space point as referencing the at least one image point of the structure. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 4 – 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- With regards to claim 4, the Examiner cannot ascertain the meaning of "punctiformly" and therefore the scope of the claimed invention. Applicant

is permitted to be there own lexicographer but no definite definition can be determined from the disclosure. Appropriate correction is required.

- With regards to claims 5 & 6, claims 5 and 6 are rejected as being dependent upon a rejected base claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1 – 3 and 7 - 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Kenneth R. Hoffmann, Andreas Wahle, Claire Pello-Barakat, Jack Sklansky & Milan Sonka, "Biplane X-ray Angiograms, Intravascular Ultrasound, and 3D Visualization of Coronary Vessels" International Journal of Cardiac imaging, Dordrecht, NL, Vol. 15 No. 6 Dec. 1999 Pertinent Pages 495 - 512.

- With regards to claims 1 and 10, Hoffmann et al. teach a device and method for generating a three-dimensional model of a spatial structure comprising: a) an imaging unit for generating two-dimensional projection images of the structure from various directions; (Hoffman et al., Page 496 Column 1 Lines 4 - 8) b) a display unit that is coupled to the imaging unit for displaying one of the projection images as a reference image, in which

connection the display unit comprises input means in order to make possible the interactive specification of at least one image point of the structure as a reference point; (Hoffmann et al., Page 498 Column 1 Lines 25 - 42) c) a data processing device that is coupled to the imaging unit and the display unit and is designed to reconstruct the space point, belonging to a reference point, of a structure from further projections images produced from other directions using the image-processing unit. (Hoffmann et al., Page 498 Column 2 Lines 27 - 35)

- With regards to claim 2, Hoffmann et al. teach a device as claimed in claim 1, characterized in that the imaging unit is a rotation X-ray unit. (Hoffmann et al., Page 496 Column 1 Lines 4 - 8)
- With regards to claim 3, Hoffmann et al. teach a device as claimed in claim 1, characterized in that the data-processing device is designed to reconstruct said space point by evaluating those image points of the further projection images that lie on the respective epipolar line of the associated reference point. (Hoffmann et al., Page 498 Column 1 Line 25 – Page 498 Column 2 Line 37)
- With regards to claim 7, Hoffmann et al. teach a device as claimed in claim 1, characterized in that the spatial structure has a linear route and

the data-processing device is designed to reconstruct said route from the specification of a plurality of reference points situated on a reference image. (Hoffmann et al., Fig. 2, 3, & 5, Page 503 Column 1 Line 29 – Page 503 Column 2 Line 40)

- With regards to claim 8, Hoffmann et al. teach a device as claimed in claim 7, characterized in that the data-processing device is designed to determine the width of the structure from the projection of the reconstructed three-dimensional model on projection images of the structure. (Hoffmann et al., Fig. 6, Page 505 – 508 Conclusion section, “vessel sizes, areas, and distance can be estimated more accurately”)
- With regards to claim 9, Hoffmann et al. teach a device as claimed in claim 1, characterized in that it comprises means for determining a characteristic parameter for a cyclic spontaneous movement of the spatial structure and the data-processing device is designed to use only those projection images for the reconstruction of a space point that originate from the same phase of the spontaneous movement as the associated reference image. (Hoffmann et al., Page 503 Column 1 Line 44 - Page 503 Column 2 Line 11)

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Chen et al. U.S. Patent No. 6,047,080; which is directed towards a method and apparatus for three-dimensional reconstruction of coronary vessels from angiographic images.
- Grass et al. U.S. Publication No. 2006/0210134 A1; which is directed towards a method and device for flow reconstruction.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Rush whose telephone number is (571) 270-3017. The examiner can normally be reached on 7:30AM - 5:00PM (EST).

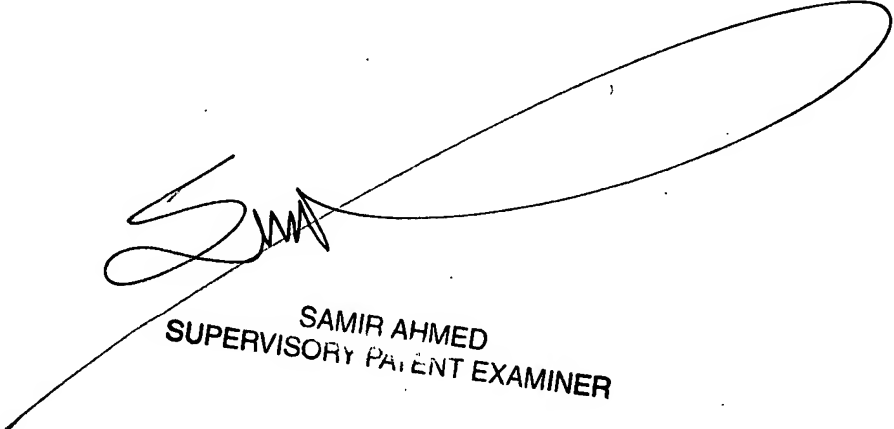
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samir Ahmed can be reached on (571) 272-7413. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ER



SAMIR AHMED
SUPERVISORY PATENT EXAMINER